Overview

Thank you for purchasing our BETA-8 CO2 Controller, which is a simple and affordable way to control your CO2 injection device. Choose your desired CO2 level and the Controller will maintain that specified value. A built-in photocell on the sensor will deactivate CO2 injection at night. A remote sensor with 16 ft long cable allows close replacement to plant canopy. Night Mode: the Controller will turn off thhe output of CO2 device. Day Mode:

a) If the Fuzzy Logic function disabled, the unit will OPEN the output of CO2 device when the current CO2 level is less than setpoint, and CLOSE the output when the current CO2 level is greater than CO2 setpoint plus deaband value.

b) if the Fuzzy Logic function enabled, the unit will fully OPEN the output of CO2 device when the current CO2 level is much lower than teh setpoint. When the CO2 level is closing to the setpoint, the unit will calculate and send PWM signal to control the output of CO2 device. The PWM cycle is 5 seconds.

Installation

- Mount the Controller on wall, place the sensor in a well- ventilated area.
- Connect the CO2 sensor to the controller.
- Plug the Controller into a 120V NEMA 5-15 wall outlet.
- Program the desired settings before connecting to CO2 generator or regulator.
- Plug the CO2 device into the power outlet of the unit. Ensure that the CO2 device has the proper voltage (120V) and not exceeding the max amperage rating (6A).

Up   Down   Home

CO2 Device   CO2 Sensor
Indicator

Operation Instructions

1. Reading CO2 Level

a). Warm up the unit for approximately 1 minute

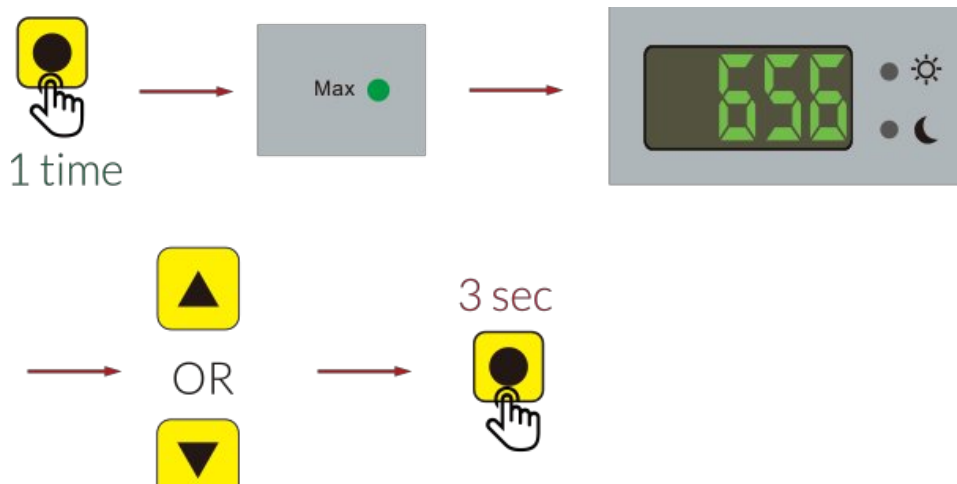b). After warm-up, the LED will display the current CO2 level (as PPM).

c). The CO2 Device LED CO2 Device ● will turn green when corrected with CO2 generator or CO2 regulator

2. Maximum CO2 Recorded Value Recall

Press **HOME** button 🔘 on time, the LED will display the maximum CO2 recorded value and the Max LED Max 🟢 indicator will be blinking. To clear the record, press **UP** button 🔼 or **DOWN** button 🔽 , all digits on LED display will be blinking, press and hold **HOME** button 🔘 for 3 second to

clear the record.

Max ●

Min ●

655

Setpoint
Deadband
Fuzzy logic
Calibrate

CO2 Device ●
Fuse: 6A / 250V~

1 time

Max ●

655

OR

3 sec

3. Minimum CO2 Recorded Value Recall

Press **HOME** button ⊙ twice, the LED will display the minimum CO2 recorded value and the Min LED indicator Min ● will be blinking. To clear the record, press **UP** button ▲ or **DOWN** button ▼ , all digits on LED display will be blinking, press and hold **HOME** button ⊙ for 3 second to clear the record.

2 times

3 sec

OR
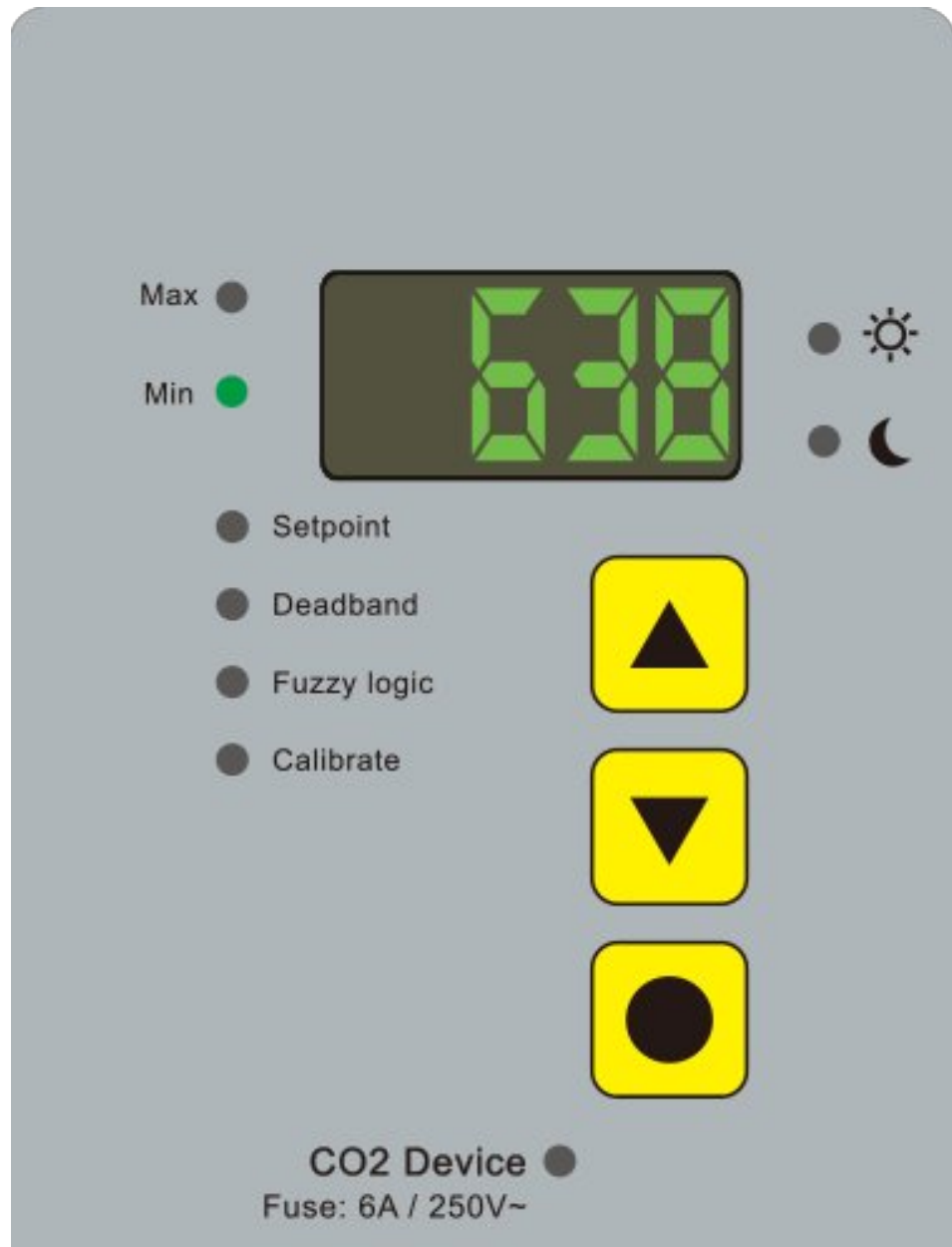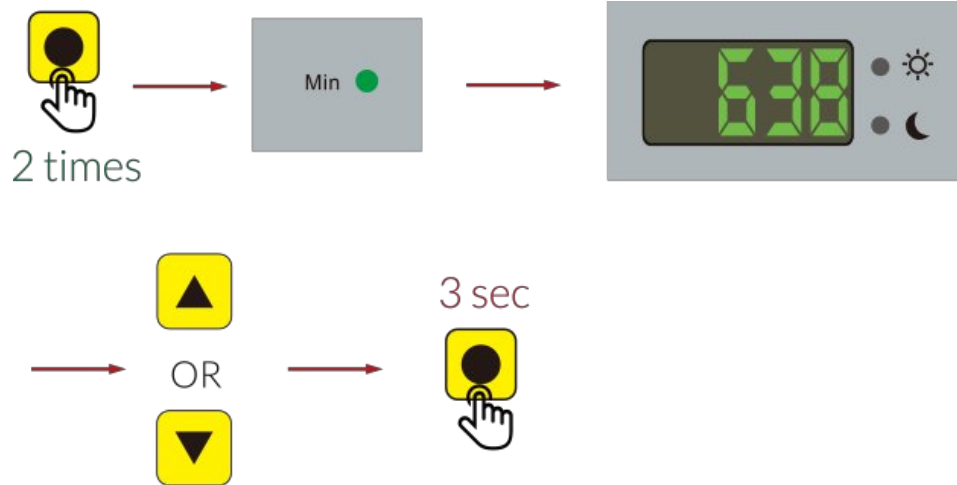
## 4. CO2 PPM Level Setpoint Ajustment

Factory setpoint is 1200 PPM, the CO2 sensor sensing the CO2 PPM level. If the CO2 level is lower than 1200 PPM, the controller will turn on output relay to drive the CO2 device for enriching the CO2 in the grow area. When the CO2 PPM level exceeds setpoint plus deadband (50 PPM), the controller will cut off the output. To adjust the setpoint, press HOME button ⊙ 3 times, the Setpoint LED indicator ● Setpoint will be blinking, the LED will display the current setpoint. Press UP ▲ or DOWN ▼ , all digits on the LED will be blinking and then press UP ▲ or DOWN ▼ button to increase or decrease the setpoint.
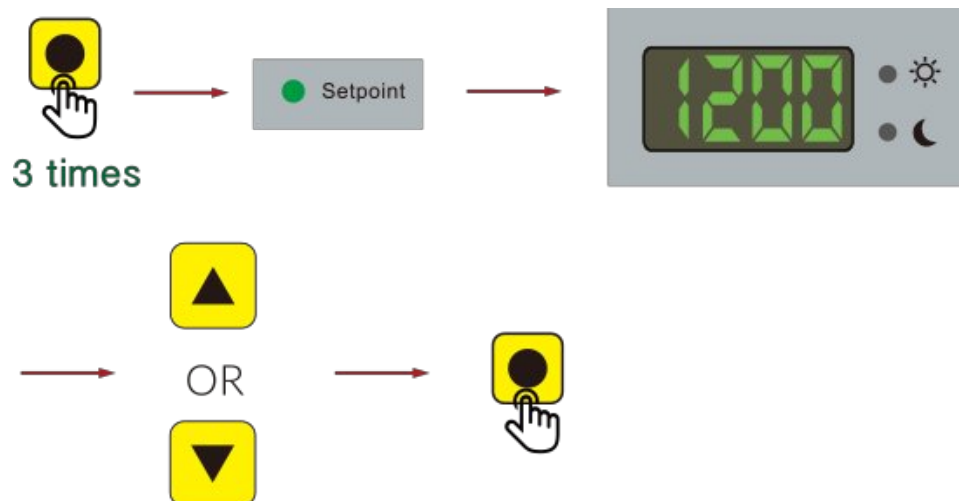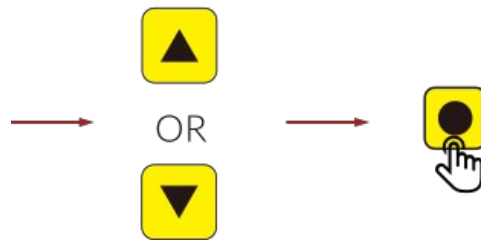
5. CO2 PPM Deadband Adjustment

Factory deadband setting is 50 PPM. To adjust
the deadband, press **HOME** button ⬛ 4 times,

the Deadband LED ● Deadband will be blinking and the LED will display the current deadband setting. Press **UP** ▲ or **DOWN** ▼ , the digits on the LED will be blinking and the press ▲ or ▼ to increase or decrease the deadband

4 times
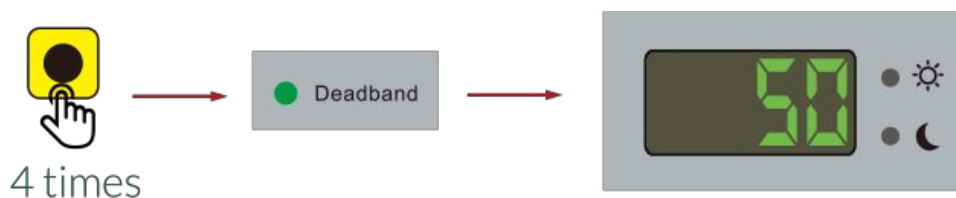
6. Fuzzy Logic Mode

a). Fuzzy Logic mode counters rising or falling CO_2 levels by quickly activating the CO_2 solenoid valve, allowing CO_2 levels to be controlled more precisely.

b). The Fuzzy Logic function is active if the Fuzzy Logic LED indicator ● Fuzzy logic illuminated.

c). Factory default setting of fuzzy logic is off. To activate the fuzzy logic, press HOME button ●
5 times, the Fuzzy Logic LED indicator ● Fuzzy logic will be blinking. Press UP ▲ or DOWN ▼ , the LED display OFF. Press ▲ or ▼ , the LED displays ON. Press HOME button to confirm and activate the fuzzy logic and the Fuzzy Logic LED indicator ● Fuzzy logic will illuminate.

d). This function can be used ONLY with compressed CO2.

e). Do not use Fuzzy Logic with a CO2 generator ! ! !
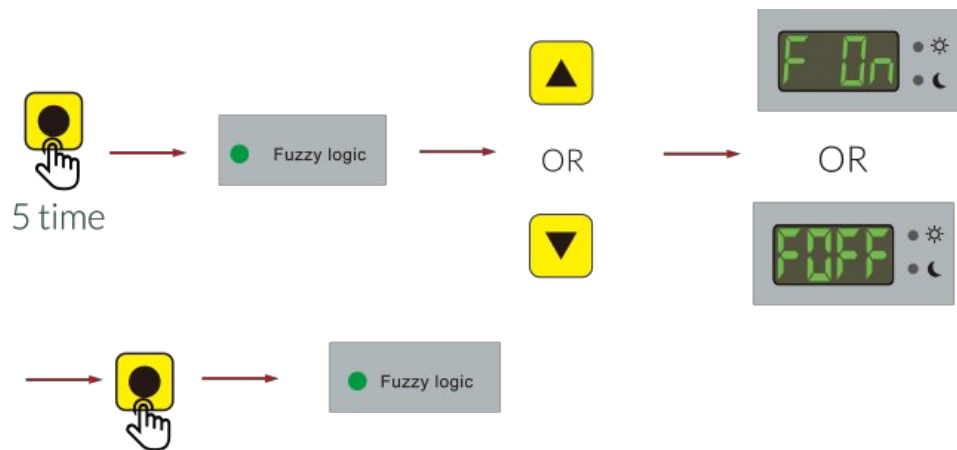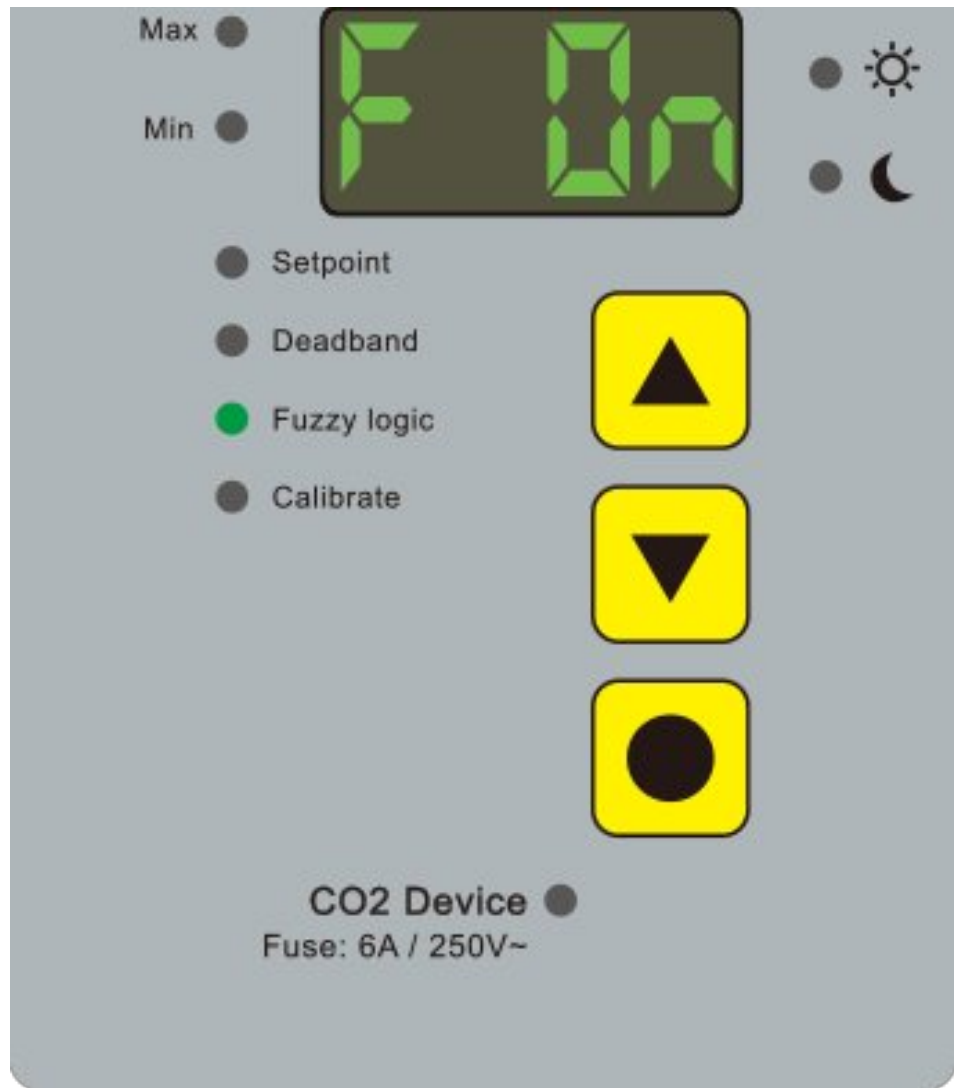
7. Calibrating the CO2 Sensor

a). Place the sensor outdoors in a shaded area. Do not place in direct sunlight. Keep away from people, animals and other CO2 emitting units.

b). Plug in the Controller and allow it to warm up for a minimum of 30 minutes but 1 hour is recommended.

c). Press HOME button ⬛ 6 times to activate the automatic calibration, the [Calibrat] LED indicator ● Calibrate will be blinking. Press UP ▲ or DOWN ▼ , the CO2 level (400 ppm) will be displayed on the LED and blinking. Press UP or DOWN to adjust the calibration level if you have an accurate reference. Otherwise, the recommended level will be 400 ppm. Press and hold HOME button ⬛ 3 seconds to activate the calibration.
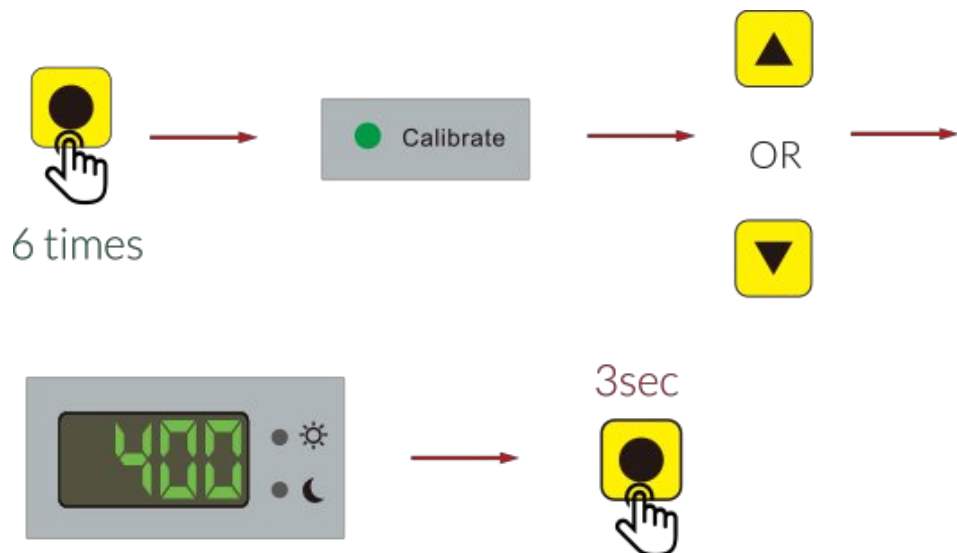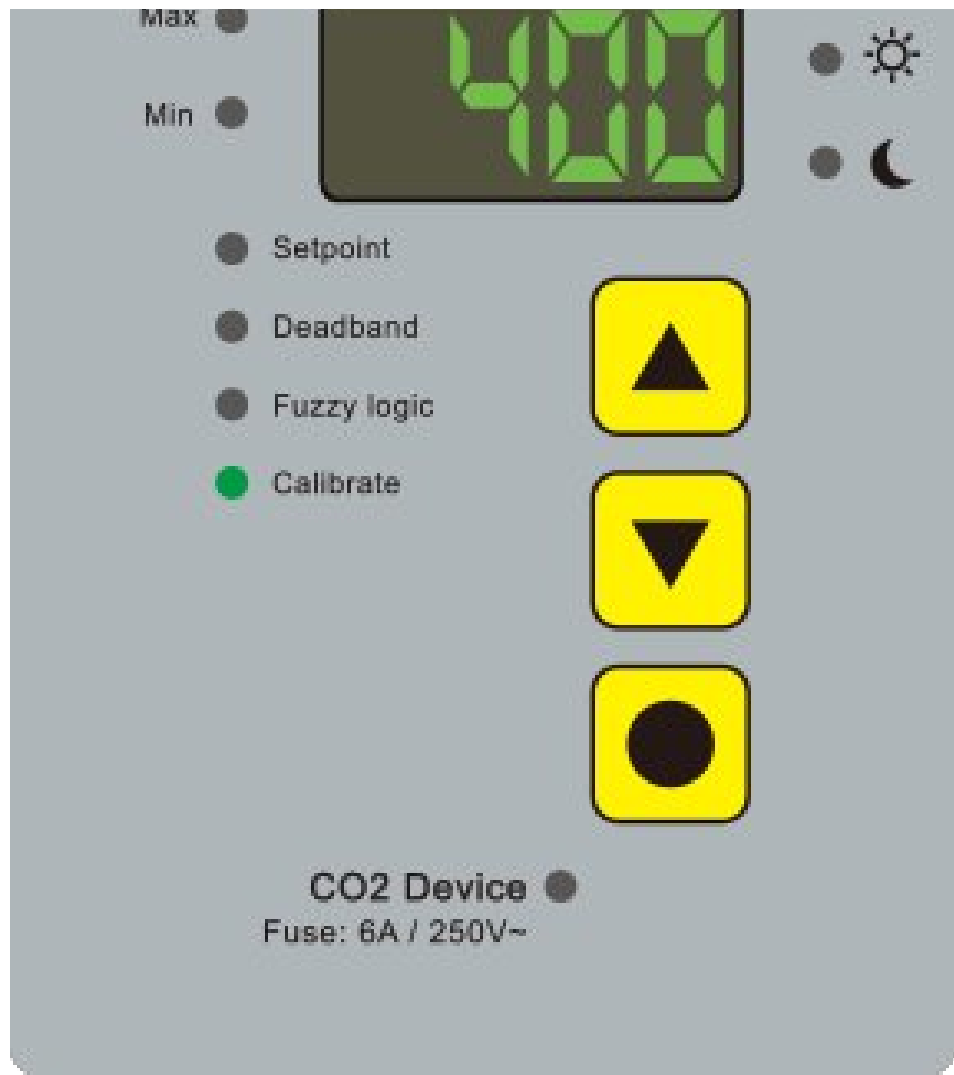
d) The LED will display the countdown timing.

e) When it is completed, the screen will display normal functions. Calibration will not affect any other settings.
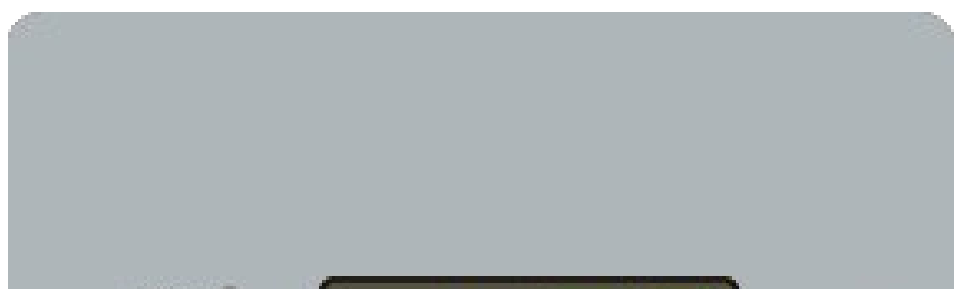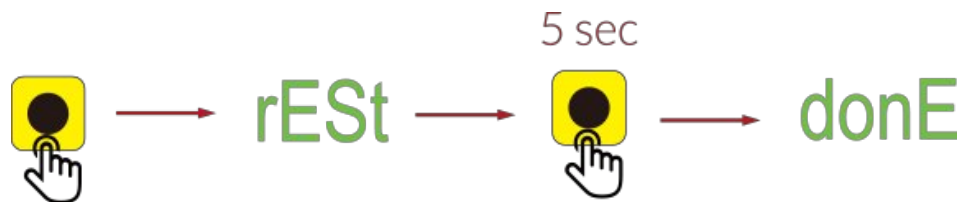
8. Restore the Factory Settings

Press and hold **HOME** button ⊙ before plugging controller into wall outlet. Power the controller, the

LED display "rESt " and blinks. Keep holding the HOME button ⬛ for 5 seconds until the LED displays " donE ".

Factory Default Settings	
CO2 Set-point:	1200 PPM
Photocell Mode:	Day
CO2 Sensor Calibration Point:	400 PPM
CO2 Deadband Value:	50 PPM
Specifications	
Input Voltage:	120 Volts AC
Output Relay Rating:	10A
Fuse Rating:	6A/250V~
AC Power Cord Length:	1.8m
CO2 Control Range:	400-2000 PPM
CO2 Deadband Range:	20-200 PPM
CO2 Accuracy:	+/- 50 PPM
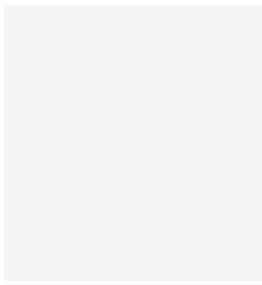
CO2 Sensor Type:	NDIR (Nondispersive Infrared)
Package Weight:	0.56Kg
Dimensions:	130x78x46mm